

REMARKS

The Examiner is thanked for the performance of a thorough search.

Prior to entry of this amendment, Claims 1-30 were pending in the application. By this amendment, Claims 1, 3, 9, 10, 20, 22, 23, 29 and 30 are amended. Claims 31 and 32 are added and no claims are cancelled. Hence, Claims 1-32 are currently pending in the application.

SUMMARY OF THE REJECTIONS/OBJECTIONS

Claims 1, 9, 20 and 22 were rejected under 35 U.S.C. § 101 as allegedly unpatentable subject matter; Claims 1-11 and 23-30 were rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Ohno et al. ("*Ohno*"; U.S. Patent No. 6,578,088); and Claims 12-22 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Ohno* in view of Fijolek et al. ("*Fijolek*"; U.S. Patent No. 6,223,222).

THE REJECTIONS NOT BASED ON THE PRIOR ART

Claims 1, 9, 20 and 22 were rejected under 35 U.S.C. § 101 as allegedly unpatentable subject matter. Specifically, a question was raised as to whether these claims are directed merely to an abstract idea.

Independent Claims 1, 9, 20 and 22 are amended to recite "[a] machine-implemented method ..." Therefore, the methods recited in Claims 1 and 8 are now explicitly tied to a machine. Furthermore, because the steps performed are machine-implemented, performance of the steps does transform something physical to another state. It is commonly understood that computer-implemented and machine-implemented steps operate on data stored in electronic computer memory; changing data causes a change in the state of cells, gates and transistors of the electronic memory; changing the state of these devices means, at the atomic level, that an electron charge is applied to certain semiconductor materials associated with particular memory

bit locations and not to others; and that this change in charge is a concrete and tangible result.

For these reasons, the rejection of Claims 1, 9, 20 and 22 is now moot. Withdrawal of this rejection of Claims 1, 9, 20 and 22 under 35 U.S.C. § 101 is requested.

THE REJECTIONS BASED ON THE PRIOR ART

Rejections under 35 U.S.C. § 102(e)

Claims 1 and 9 are amended to clarify that (A) the address utilization state is based on a percentage, of a certain address space, in use, and that (B) the specified action that is performed in response to the address utilization state involves addresses from the certain address space.

The utilization state, from *Ohno*, on which the rejection relies is simply whether or not a terminal using an address actually exists in a LAN (col. 2, lines 26-34; 901 of Fig. 9; col. 9, lines 53-63). *Ohno* does not disclose or suggest a network address utilization state that is based on the percentage of a certain address space in use, for example, any of the percentages described in paragraph [0051] of the application.

The action, from *Ohno*, on which the rejection relies is simply storing examination results about whether or not terminals using addresses actually exist in the LAN (col. 2, lines 26-34). *Ohno* does not disclose or suggest performing an action that involves addresses from the certain address space to which the address utilization state is associated.

For a valid anticipation rejection, each and every feature of the rejected claims must be found in the prior art reference on which the rejection is based, or commonly known to one skilled in the applicable art. Because *Ohno* does not disclose each and every limitation of Claims 1 and 9, *Ohno* does not anticipate these claims. Claims 2-8 depend from Claim 1 and Claims 10 and 11 depend from Claim 9. Therefore, Claims 2-8, 10 and 11 are patentable over

Ohno for at least the same reasons as the claims from which they depend. Therefore, withdrawal of the rejection of Claims 1-11 under 35 U.S.C. § 102(e) is requested.

Furthermore, each of Claims 2-11 recites at least one additional feature that separately makes the respective claim patentable over the references of record.

For example, Claim 4 refers to a reconfiguring action (e.g., renumbering action 210, as described in greater detail in reference to FIGS. 4A and 4B). The citations of *Ohno* on which the rejection of Claim 4 relies collectively describe various databases (i.e., “address-pool DB 102”, “already-distributed address DB 103”, and “in-use address DB 105”) within a DHCP server 100, and how those databases are used to store the status of network addresses. *Ohno* goes on to describe how the in-use address DB 105 is used to catalog addresses that are “not known” (i.e., not distributed by) by the DHCP server. Thus, these citations of *Ohno* do not disclose an address reconfiguring action in the context of a network with multiple address blocks, which decreases the number of blocks associated with the network based on, as recited in Claim 1, a percentage in use of a certain address space. For this additional reason, Claim 4 is patentable over the references of record.

For another example, Claim 10 recites that the condition and action information are received from a broadband network access provider. The Office Action refers to a Wide Area Network (WAN 114 of FIG. 1) to substantiate the broadband network access provider of Claim 10. A WAN may be a broadband network, but is not a broadband network access provider, i.e., a provider of access to a broadband network. As described at paragraph [0023] of the application, various aspects of the invention can be utilized in a broadband access network, in which a service provider delegates responsibility for a portion of their address space to a broadband network access provider, which is typically responsible for distributing the addresses to devices used by subscribers of the service provider. For example, America Online, Inc.

(AOL), as a service provider, may provide cable Internet access and services routed through Time Warner's cable access network. Time Warner, as an access provider, manages the address space assigned to AOL subscribers. The typical relationship between Internet Service Providers (ISPs) and Network Access Providers (NAPs) is further described in paragraphs [0003] and [0004] of the application. *Ohno* does not disclose a system in which a broadband network access provider (for a non-limiting example, a cable network owner) specifies rules (i.e., conditions and associated actions) according to which network addresses are managed for a network service provider based on a percentage in use of a certain address space. For this additional reason, Claim 10 is patentable over the references of record.

Claim 23 recites a computer-readable medium carrying instructions which, when executed by one or more processors, cause the one or more processors to perform the steps that are recited in Claim 1. Claim 23 is also amended to clarify that (A) the address utilization state is based on a percentage, of a certain address space, in use, and that (B) the specified action that is performed in response to the address utilization state involves addresses from the certain address space. It is shown above in reference to Claim 1 that *Ohno* does not disclose these features. Because *Ohno* does not disclose each and every limitation of Claim 23, *Ohno* does not anticipate this claim. Hence, Claim 23 is patentable over the references of record for at least the same reasons as Claim 1.

Claims 24-28 depend from Claim 23. Therefore, Claims 24-28 are patentable over *Ohno* for at least the same reasons as the claim from which they depend.

Claims 29 and 30 are also amended to clarify that (A) the address utilization state is based on a percentage, of a certain address space, in use, and that (B) the specified action that is

performed in response to the address utilization state involves addresses from the certain address space. It is shown above in reference to Claim 1 that *Ohno* does not disclose these features. Because *Ohno* does not disclose each and every limitation of Claims 29 and 30, *Ohno* does not anticipate these claims. Hence, Claims 29 and 30 are also patentable over the references of record for at least the same reasons as Claim 1.

Rejections under 35 U.S.C. § 103(a)

Claims 12-19 depend, directly or indirectly, from Claim 9. The Office Action relies on *Ohno* in combination with *Fijolek* to reject Claims 12-19. Because of their dependence on Claim 9, Claims 12-19 are patentable over the references of record for at least the same reasons as Claim 9 from which they depend. As is shown above in reference to Claims 1 and 9, *Ohno* does not disclose that (A) the address utilization state is based on a percentage, of a certain address space, in use, and that (B) the specified action that is performed in response to the address utilization state involves addresses from the certain address space. Furthermore, *Fijolek* does not cure these deficiencies in the disclosure of *Ohno*. Hence, Claims 12-19 are not made obvious to one skilled in the art based on the teachings of *Ohno* in combination with *Fijolek* and, therefore, the withdrawal of the rejection of Claims 12-19 under 35 U.S.C. § 103(a) is requested.

Furthermore, each of Claims 12-19 recites at least one additional feature that separately makes the respective claim patentable over the references of record.

For example, Claim 13 recites creating one or more sub-interfaces on a physical interface, where each sub-interface is associated with a particular network service provider and one or more sub-networks are assigned to one or more of the sub-interfaces. For example, a router interface is logically broken into multiple sub-interfaces associated with respective

service providers so that respective sub-networks can be assigned to the sub-interfaces and, therefore, to the respective service providers. Thus, an address space is logically partitioned per service provider, by assigning to service providers particular sub-networks associated with portions of the address space via sub-interfaces on a routing means. The citations of *Fijolek*, or *Fijolek* in its entirety, do not disclose this interrelationship between sub-networks, sub-interfaces and network service providers, and the application of this interrelationship via the physical interface of a routing means. Rather the citations of *Fijolek* on which the rejection of Claim 13 relies describe a DHCP message structure for discovering network host interfaces. This teaches nothing of the application of the interrelationship referred to above via the routing means interface. For this additional reason, Claim 13 is patentable over the cited references of record.

For another example, Claim 15 recites proportionally associating a range of network addresses to routing means based on a previous distribution of addresses for the routing means. The citations of *Fijolek* on which the rejection of Claim 15 relies generally refers to a mechanism for dynamically and temporarily assigning a network address to a client, which is one of the well-known and primary purposes of a DHCP server. This teaches nothing of proportional assignment of a range of network addresses to a routing means based on a previous distribution of addresses for the same routing means. For this additional reason, Claim 15 is patentable over the cited references of record.

Claims 20 and 22 are also amended to clarify that (A) the address utilization state is based on a percentage, of a certain address space, in use, and that (B) the specified action that is performed in response to the address utilization state involves addresses from the certain address space. As is shown above in reference to Claims 1 and 9, *Ohno* does not disclose these

features. Furthermore, *Fijolek* does not cure these deficiencies in the disclosure of *Ohno*. Hence, Claims 20 and 22 are not made obvious to one skilled in the art based on the teachings of *Ohno* in combination with *Fijolek*. Claim 21 depends from Claim 20 and, therefore, is patentable over the cited references for at least the same reasons as the claim from which it depends.

NEW CLAIMS

Claims 31 and 32 are computer system and apparatus claims, respectively, which, in general, claim similar subject matter as recited in Claim 22. Thus, no new matter is introduced in the application by way of these new claims. Claims 31 and 32 are patentable over the references of record for at least the same reasons as Claim 22 and, allowance of these claims is requested.

CONCLUSION

For the reasons set forth above, it is respectfully submitted that all of the pending claims (1-32) are now in condition for allowance. Therefore, the issuance of a formal Notice of Allowance is believed next in order, and that action is most earnestly solicited.



The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

Please charge any shortages or credit any overages to Deposit Account No. 50-1302.

Respectfully submitted,

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